

Silicon Diode

RGP30A

50V / 3A

DATASHEET

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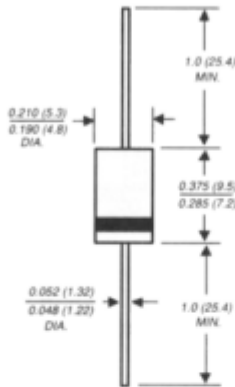
Source: General Semiconductor Databook 1998

RGP30A THRU RGP30M

GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER
 Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

PATENTED*

DO-201AD



Dimensions in inches and (millimeters)

* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306



FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ High temperature metallurgically bonded construction
- ◆ 3.0 Ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway
- ◆ Typical I_R less than $0.2\mu\text{A}$
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed $350^{\circ}\text{C}/10$ seconds, $0.375"$ (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-201AD molded plastic over glass body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.04 ounce, 1.12 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	RGP 30A	RGP 30B	RGP 30D	RGP 30G	RGP 30J	RGP 30K	RGP 30M	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^{\circ}\text{C}$	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	125.0							Amps
Maximum instantaneous forward voltage at 3.0A	V_F	1.3							Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^{\circ}\text{C}$ $T_A=125^{\circ}\text{C}$	I_R	5.0 100.0							μA
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length at $T_A=55^{\circ}\text{C}$	$I_{R(AV)}$	100.0							μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	150			250	500			ns
Typical junction capacitance (NOTE 2)	C_J	60.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	20.0							$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							$^{\circ}\text{C}$

NOTES:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

RATINGS AND CHARACTERISTIC CURVES RGP30A THRU RGP30M

